ON VARNISHING AND THE PREPARATION OF DIFFERENT VARNISHES.

It was long a desideratum to find some certain and easy method of depriving shell-lac of its colouring matter, or, at all events, to render it sufficiently colourless for the use of artists. In vol. xlv. of the "Transactions of the Society of Arts," two such processes are recorded; the first, by Mr. Field, is as follows:—Six ounces of shell-lac, coarsely pounded, are to be dissolved by gentle heat in a pint of spirit of wine; to this is to be added a bleaching liquor, made by dissolving purified carbonate of potash in water, and then impregnating it with chlorine gas till the silica precipitates, and the solution becomes slightly coloured. Of this bleaching liquor add one or two ounces to the spirituous solution of lac, and stir the whole well together; effervescence ensues, and when this ceases, add more of the bleaching liquor, and thus proceed till the colour of the mixture has become pale. A second bleaching liquid is now to be used, made by diluting muriatic acid with three times its bulk of water, and dropping into it pulverized red-lead, till the last added portions do not become white. Of this acid bleaching liquor, small quantities at a time are to be added to the half-bleached lac solution, allowing the effervescence, which takes place on each addition, to cease, before a fresh portion is poured in. This is to be continued till the lac, now white, separates from the liquor. The supernatant fluid is now to be poured away, and the lac is to be well washed in repeated waters, and, finally, wrung as dry as possible in a cloth.

The lac obtained by the foregoing process is to be dissolved in a pint of alcohol, more or less, according to the required strength of the varnish, and after standing for some time in a gentle heat, the clear liquor, which is the varnish, is to be poured off from the sediment. White-lac varnish thus prepared, and used in a temperature of not less than 60°, dries in a few minutes, and is not afterwards liable to chill or bloom.

The second process is by Mr. Luning:—Dissolve five ounces of shell-lac in one quart of rectified spirits of wine; boil for a few minutes with ten ounces of well burnt and recently-heated animal charcoal, when a small quantity of the solution should be drawn off and filtered; if not colourless, a little more charcoal must be added. When all colour is removed, press the liquor through silk, as linen absorbs more varnish, and afterwards filter it through fine blotting-paper. In cases where the wax contained in gum-lac would be objectionable, filter cold; if the wax be not injurious, filter while hot.

There seems to be little or no difference in these two colourless lac-varnishes, except that the last is much less troublesome to prepare, whilst it is pronounced by competent judges to be equally efficient.

From the chemical analysis of lac by Mr. Hatchett, it appears that 100 parts of shell-lac consist of 90.9 resin, 4 wax, 2.8 gluten, and 0.5 extract. Cold alcohol will take up 81 parts of the resin, and leave the wax and gluten untouched; it would, therefore, probably be an improvement on either of the above processes, to make the first solution of the shell-lac in cold, instead of hot or boiling alcohol.

When wood or any other porous material is to be varnished, it requires to be coated with some substance which will cause it to *bear out*: the pores may thus be completely filled, and much time and varnish saved. For mahogany and some other woods, boiled linseed-oil may be used, particularly if it be desirable to heighten the colour. Thin size, made from common glue or from isinglass, the glare of eggs, gum-water, or gum tragacanth, are occasionally employed, the object in view being to prevent the absorption of the varnish by an interposed coat of some substance which is not soluble in alcohol. When linseed oil is used, it ought to be applied very sparingly, and a day or two should be allowed for it to harden, previously to varnishing.

For ordinary work, a brush, known in the trade as a *sash-tool*, answers extremely well, provided it be of a suitable size, as the varnish, if not too thick, will flow and spread itself evenly, although the hairs of the brush may not be fine. When the varnish is thin, and the articles to be varnished are of the finer kind, or the surface considerable, the flat camel's hair brushes are to be preferred. In general, three or four applications will be found requisite; and when the wood is very porous, or the varnish to be rubbed down and polished, double the number may be necessary; but this depends so much on the character of the materials, that no certain rule can be prescribed. In dry weather, the spirit evaporates so rapidly, that the coats may follow each other at an interval of a few minutes only; yet it is important to observe, that the last be perfectly hard before another is laid on. It sometimes happens, that the varnish assumes an opaque white appearance during the process, losing all brilliancy. This is occasioned by moisture in the atmosphere, and indicates that a close room and a fire are absolutely essential, and without such precautions it will be useless to persevere.

It will be perceived, that many of the preceding remarks apply to spirit varnishes in general, as they all possess certain properties in common, and, therefore, require a similar mode of treatment. The mode of polishing, and some other particulars, we shall now briefly describe, and in general terms, reserving a more extended notice for a future paper.

To rub down, or Prepare the Varnished Surface for Polishing.—For common work, shell-lac varnish does not require to be rubbed down and polished, except where the surface is to be made very even. For rubbing down, pumice-stone, reduced to a very fine powder, is commonly used. Four or five coats of varnish, at least, must be laid on, and allowed to become perfectly hard; a piece of woollen rag is then made wet, and a portion of the powder put on it; this is then rubbed carefully and equally over every part of the varnished surface, until it assumes a perfectly even and smooth appearance. Considerable judgment and attention is requisite to avoid rubbing through at some parts, before others are rendered smooth, particularly if there be any sharp edges or projecting mouldings. Should this accident happen, the entire process must be repeated; practice, however, and taking care that a sufficient body of varnish be given to the surface, to ensure the requisite thickness of resin, will generally enable us to avoid a failure. A very convenient mode of using the cloth is, to wrap it round a cork, that is, supposing we are at work upon a plane surface; but the same method may be adopted in rubbing down mouldings, by merely cutting the cork to fit the shape of the moulding.

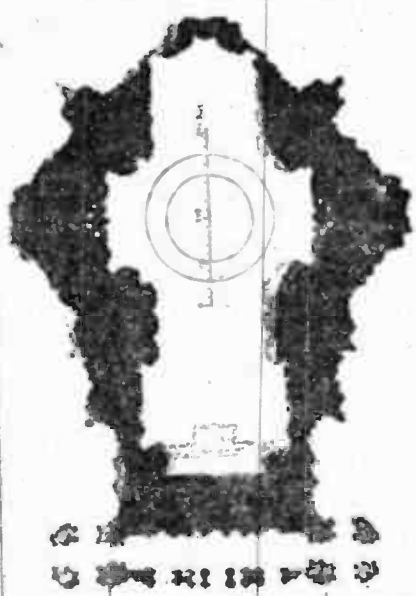
To Polish the Varnish.—Supposing the surface to be well prepared by the pumicestone powder, it is very easily polished. This is effected by fine rotten-stone, used exactly in the same way as the pumicestone, excepting that sweet oil is employed instead of water. The oil may be removed from the surface by a soft linen rag, and some dry rotten-stone; and if a little is then rubbed on by the palm of the hand, it will produce the highest degree of polish.—*Penny Mechanic.*

NATIONAL MONUMENTS.

On the evening of Monday last a vote was taken for 1,500*l.* to be expended in defraying the cost of monuments to the memory of Sir Sidney Smith, Lord Exmouth, and Admiral de Saumarez. The member for Lambeth, Mr. Hawes, expressed his opinion that men distinguished in literature and science were equally entitled with the defenders of their country to enduring testimonials of national gratitude, and he suggested to the prime minister that the subject might be advantageously taken up by the Fine Arts Commissioners. Sir Robert Peel answered that the government would be prepared to consider the question of erecting statues to such men as Newton and Davey, but must be first satisfied as to the place where the statues could be put; to erect them out of doors would necessitate the use of a most costly material, bronze; and there was this objection to placing them in an ecclesiastical edifice, that the public would not necessarily have free access to them, and so the great public object fail of being attained. The propriety of referring the matter to the Fine Arts Commission he could not determine until after consideration. Mr. Vernon Smith proposed that the commission should be instructed to inquire whether some part of the new Houses of Parliament could not be set aside for the reception of such statues; at all events, if Westminster-hall was to form an access to them, such statues might be placed therein. Mr. Hume hoped that the statues of our naval heroes would be removed from "the prisons in which they are now locked up," from Westminster-hall and St. Paul's, where they could not be seen without the payment of an admission fee; and alluded to the fact that from the want of a suitable building Thorwaldsen's statue of Byron had been lying at the Custom-house for the last ten years. Mr. Monckton Milnes stated that there were difficulties in the way of opening St. Paul's and Westminster Abbey gratuitously, and thought that there was a class of monuments much better calculated for other buildings than for a Christian church; he should be glad, therefore, if the suggestion of Mr. Barry, as to the admission of such into Westminster-hall, were to meet with attention. The vote was then agreed to.

This discussion relieves us from the task of commenting on the letter of Mr. Westmacott to the Rev. H. Milman, which we transferred from the *Athenæum* to the columns of a recent number. All the principles laid down by Mr. Westmacott—a distinct building for monuments purely commemorative, the removal of such monuments from ecclesiastical edifices, the exclusion from those structures of monuments not conceived in a spirit of piety, humility, and the subordination of all temporal matters to the sense of religion—were affirmed, as, indeed, they could not well be repudiated. The choice of some place whither the old monuments shall be removed, and wherein for the future national memorials should be erected, remains. Westminster-hall would undoubtedly be a fit place, but so also would the vestibules of the two Houses of Parliament, and the larger corridors through which the public would be passing and repassing; there is no reason why all should be crowded together on one spot, why there should be a sort of Walhalla. The main point is that such monuments, as they must be under cover, be erected in some place to which the public not only has free access, but which it has some incentive to visit. The monuments should be brought prominently before the public eye, and not be merely open to the inspection of those who have time and curiosity for visiting them. Westminster-hall and the whole range of public galleries in the Houses of Parliament are places to which, from motives of business as well as curiosity, men will resort during a great portion of the year. In them, that is, in every portion of them, testimonials of national gratitude to the benefactors of the country might be placed. Nor would it be difficult to fix on some principles of classification, that should connect the several statues with the traditions or the actual business of the place in which the spectator might behold them.

We trust that Sir Robert Peel will refer the matter to the Fine Arts Commission, a body with which the public is well pleased. It requires very slender powers of imagination to perceive that the subject is, collaterally at least, within the scope of its functions.



COMPARATIVE PLANS OF ST. PETER'S, ROME, AND ST. PAUL'S, LONDON.

The black represents the ground-plan of St. Peter's Church at Rome, and the white part contained within it, that of St. Paul's, London. The outline is accurately defined in each. The smaller circle shews the size of the space under the dome of St. Paul's, namely, 100 feet in the clear. The larger circle, in like manner, gives that of St. Peter's, 145 feet. The piers supporting the dome of St. Peter's measure in the angle 80 feet, those of St. Paul's are under 40 feet. This sort of diagram and description will convey at one glance the relative magnitude and comparative forms of the two buildings.